



Soundwalls on the Lafayette Street Interchange Project

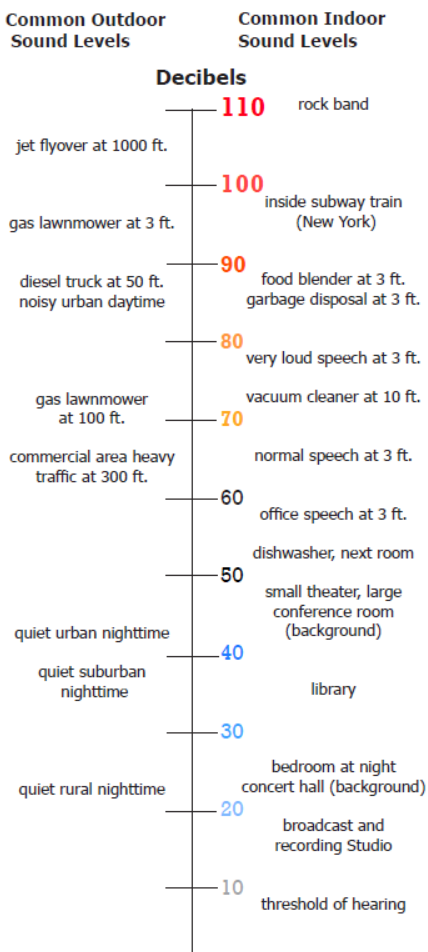
Why Build Sound Walls?

The Federal Highway Administration (FHWA) requires MoDOT to complete a sound study any time it plans to add through lanes to an existing highway, construct a new roadway, or change the location of a road.

Sound walls are not even considered until noise levels exceed 66 decibels for property owners next to a highway. At this noise level, it is difficult to hear normal speech. Effective sound walls can reduce noise levels by up to 10 decibels. The decibel scale is exponential; meaning a 10 decibel decrease will cut loudness in half. However, it is important to note that sound walls will not completely take away traffic noise but can lessen the constant hum of traffic for those closest to the highway.



MoDOT's noise policy is based on federal guidelines and regulations for determining where and when sound walls can be placed. **All** MoDOT Sound Wall Criteria (listed below) must be met for a sound wall to be constructed. If all of the criteria are met, the walls can be funded as part of the highway project.



MoDOT Sound Wall Criteria

- Sound walls must provide a 5 dBA noise reduction for 67% of first-row impacted receivers
- Sound walls must provide minimum of 7 dBA for 67% of first-row receptors
- 20' height limit for safety
- Engineering feasibility must be attainable
- Owners and residents must vote in favor of the wall
- All-inclusive bid cost shall not exceed \$36,000 per benefitted receptor

Sound Wall Location

Whether a sound wall should be located at the MoDOT property line or closer to the road depends on where it would be most effective in blocking the noise. MoDOT's first choice is to locate sound walls about five feet inside of the public right-of-way, which allows room for installation, maintenance and drainage. However, when residences are lower than the roadway, the sound walls need to be closer to the roadway to be effective. The location and height of the wall is determined in the same study that determines when walls are warranted.

Property Owner Approval

Those people who own property adjacent to the walls and who benefit from them will be asked to vote whether or not they

want the wall. The property owners will be given information about the general location, height and look of the wall. If a majority of the property owners want the wall, the wall will be constructed, provided all of the sound wall criteria are met. If a majority of owners do not want the wall, then a wall will not be built.



Soundwalls on the Lafayette Street Interchange Project

To improve safety and traffic flow on U.S. Route 50 in Jefferson City, MoDOT is building a new interchange at Lafayette Street. In addition to the new interchange, the project includes building a new interchange at U.S. Route 50 and Lafayette Street; adding a lane in each direction on the Whitton Expressway from Monroe Street to Lafayette Street and from Lafayette to Clark Avenue; and rehabilitating, replacing or constructing six

bridges along the corridor. Federal regulations required a noise analysis to be conducted on this project because of the addition of auxiliary lanes. Any place (residence, park, etc.) impacted by highway traffic noise was considered for a sound wall.

After analyzing the project area, three places were found to be eligible for a sound wall per state and federal policies. Two of the three areas were approved by a vote of the owners and renter residents.

Fifty-two homes along Elm Street, Chestnut Street and Clark Avenue were found to warrant the installation of sound walls, which were approved by a vote of the property owners. A second approved sound wall is located along the shoulder of the westbound Route 50 on-ramp, which protects six front-row residences. The third area found to benefit from a sound wall was the East Miller Street Neighborhood Park, but that sound wall was not approved by the city.

Frequently Asked Questions

Why is MoDOT building sound walls when the money could be spent on the roads?

We try to be a "good neighbor" to people affected by our highway projects. We always look at the environmental impacts of our roadway projects and at alternatives that will minimize those impacts. Sound walls are a way to minimize the increased noise that sometimes comes with additional driving lanes or a highway realignment. We would also lose federal funding if we did not look at the environmental impacts of projects.

Why do some areas get sound walls and others don't?

A sound study is performed whenever we add through lanes or change the alignment of a roadway. We can only build walls in those locations where all the sound reduction criteria are met. It would be irresponsible for us to build walls that don't meet the criteria.

Why can't you just plant trees instead of building a sound wall? Or build a berm?

Landscaping or berms as a form of sound abatement are just not feasible in many areas. A group of trees would have to be more than 100 feet thick and very dense to provide the 7 decibel reduction necessary to be classified as sound abatement. Earthen berms - large mounds of soil - can effectively diminish sound, but require a large swath of land. For these reasons, vertical walls are most often the only cost-effective option for reducing noise.